

## NOTE

### 1. Note

#### A: NOTE

This information will improve the efficiency of maintenance and assure that the finished work is of a good quality.

#### 1. FASTENERS NOTICE

Fasteners are used to prevent the parts from damage, dislocation and play due to looseness. Fasteners must be tightened to the specified torque.

Do not apply paint, lubricant, rust retardant or other substance to the surface around bolts, nuts, etc. Doing so will make it difficult to obtain the correct torque and result in looseness and other problem.

#### 2. STATIC ELECTRICITY DAMAGE

Do not touch the control modules, connectors, logic boards and other such parts when there is a possibility of static electricity. Always use a static electricity prevention cord or touch grounded metal for the elimination of static electricity before conducting work.

#### 3. BATTERY

When removing the battery terminal, always be sure to turn the ignition to OFF to prevent electrical damage of the control module from overcurrent. Be sure to remove the battery ground cable first.

When removing the battery terminal, memories such as the stereo and control unit DTC are erased. Therefore, the content of each memory should be recorded first.

#### 4. SERVICE PARTS

Use genuine parts for maximum performance and maintenance when conducting repairs. Subaru/FHI will not be responsible for poor performance resulting from the use of parts except for genuine parts.

#### 5. PROTECTING VEHICLE UNDER MAINTENANCE

Make sure to attach the fender cover, seat covers, etc. before work.

#### 6. ENSURING SECURITY DURING WORK

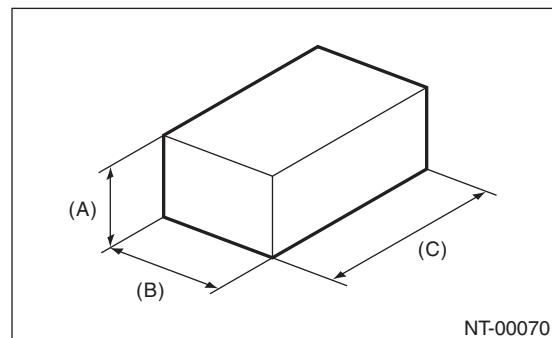
When working in a group of two or more, perform the work with calling each other to ensure mutual safety.

### 7. LIFT AND JACK

When using a lift or shop jack raise a vehicle or using rigid rack to support a vehicle, always follow instructions concerning jack-up points and weight limits to prevent the vehicle from falling, which could result in injury. Be especially careful that the vehicle is balanced before raising it. Be sure to set the wheel stoppers when jacking-up only the front or rear side of the vehicle.

#### NOTE:

- When using a lift, follow its operation manual before work.
- Do not work or leave unattended while the vehicle is supported with jack, support it with rigid racks.
- Be sure to use the rigid racks with rubber attached to cradle to support the vehicle.
- When using a plate lift, use a rubber attachment.



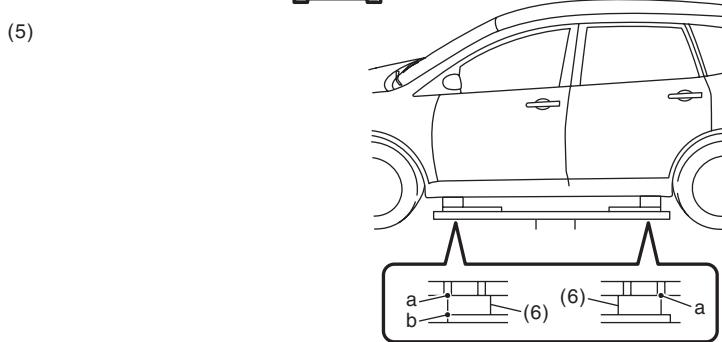
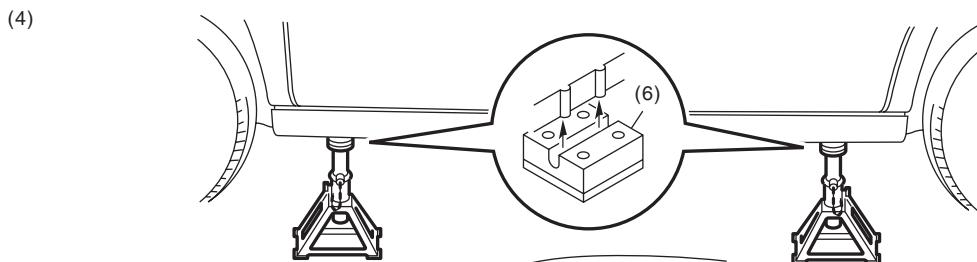
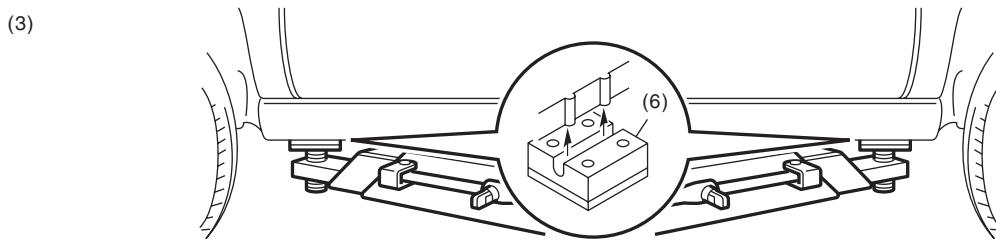
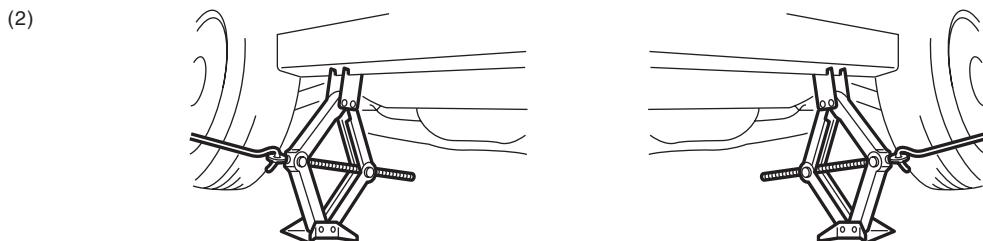
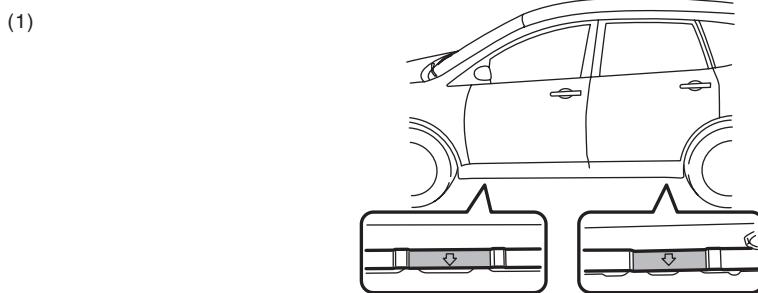
(A) 80 mm (3.1 in) or more  
(B) 100 — 150 mm (3.94 — 5.91 in)  
(C) 120 — 190 mm (4.72 — 7.48 in)

- Align the cushion rubber end of plate lift with the end of rubber attachment (Portion b). Also, align the protrusion portion of the supporting locations with the end of attachment (Portion a).

## Note

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- Do not use the plate lift whose attachment does not reach the supporting locations.



NT-00130

(1) Supporting locations  
(2) Pantograph jack

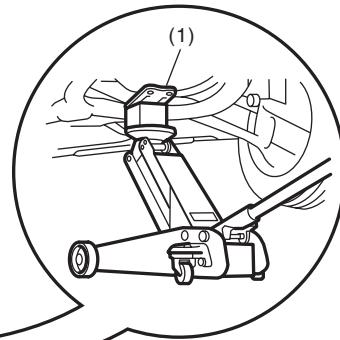
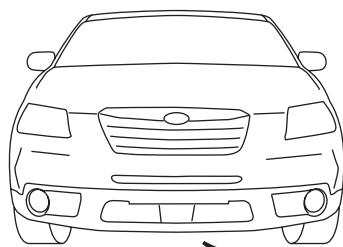
(3) Swing arm lift  
(4) Rigid rack

(5) Plate lift  
(6) Attachment

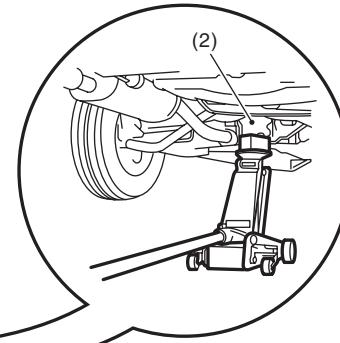
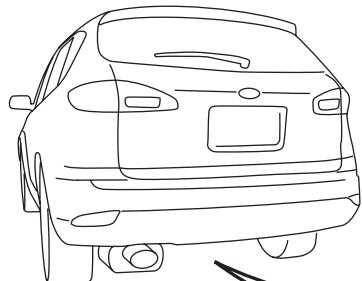
## Note

NOTE

(A)



(B)



NT-00187

(A) Front

(B) Rear

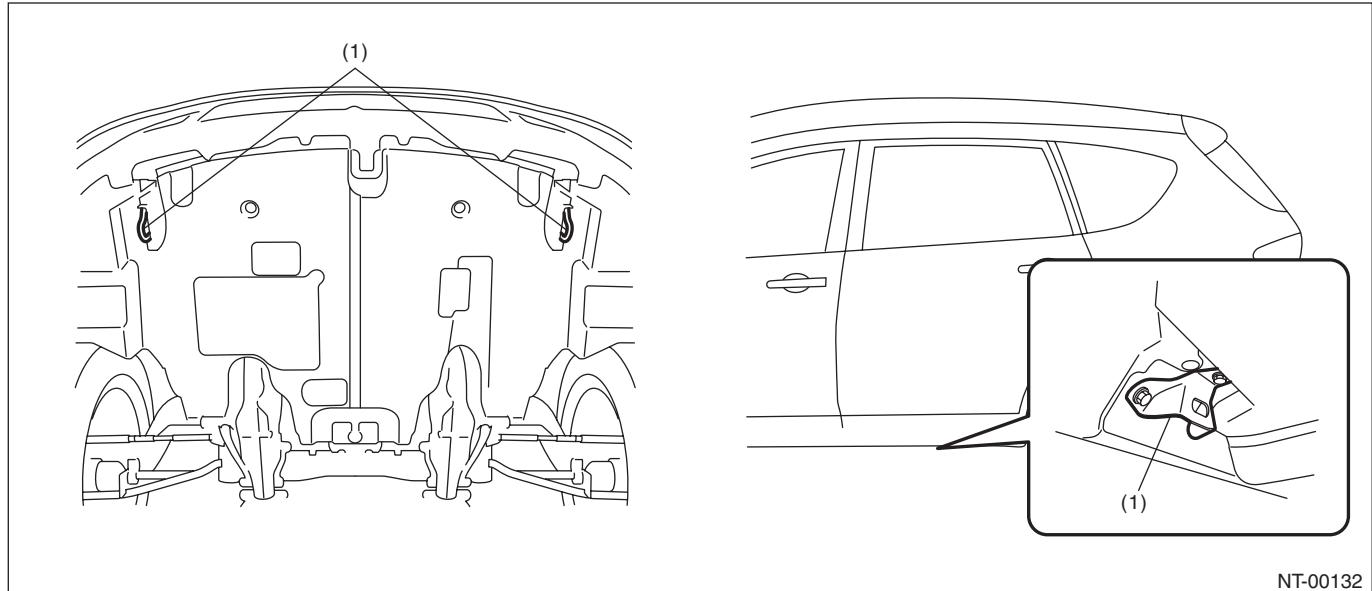
(1) Front crossmember

(2) Rear differential

## 8. TIE-DOWNS

Tie-downs are used when transporting vehicles and when using the chassis dynamo. Attach tie-down only to the specified locations on the vehicle.

- **TIE-DOWN LOCATION**



(1) Hook for tie-down

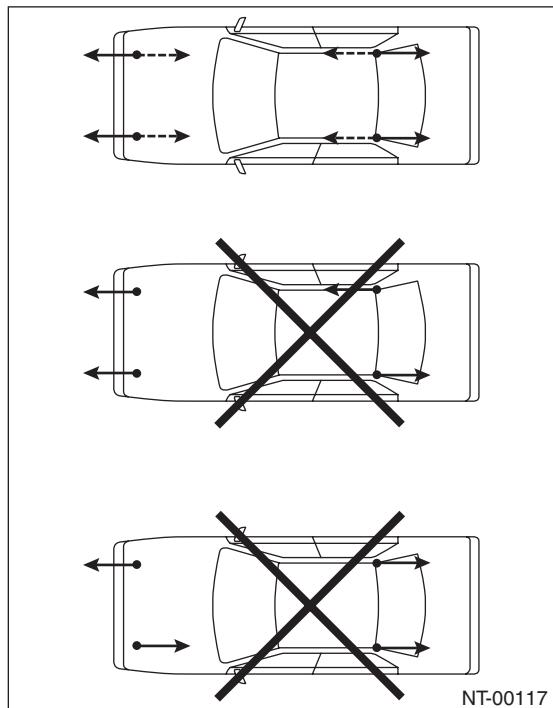
## Note

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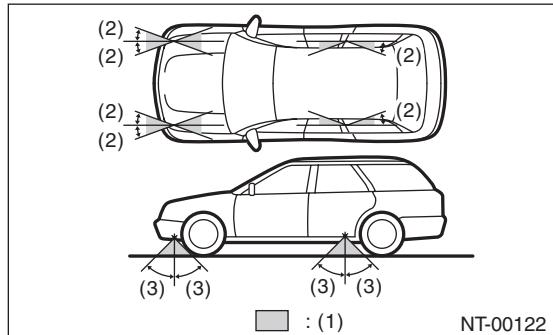
- CHAIN DIRECTION AT TIE-DOWN CONDITION

#### NOTE:

Pull the chains LH and RH in the same direction, but front and rear side in the counter direction. Pull all the chains in a same moment.



- CHAIN PULLING RANGE AT TIE-DOWN CONDITION



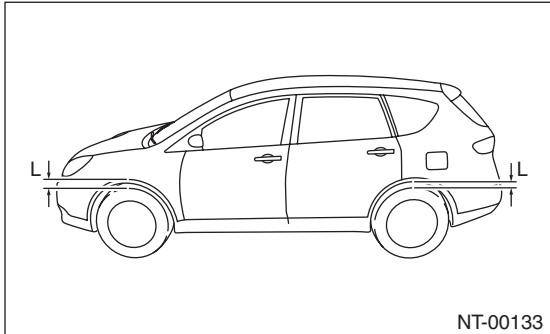
(1) Chain pulling range at tie-down condition

(2) 20°

(3) 45°

- VEHICLE SINKING VOLUME AT TIE-DOWN CONDITION

Measure the distance between the highest tire point and highest arch point before and after tie-down. Difference of measured values (sinking volume) should be within 50 mm (1.97 in) and make sure to fix the vehicle securely.



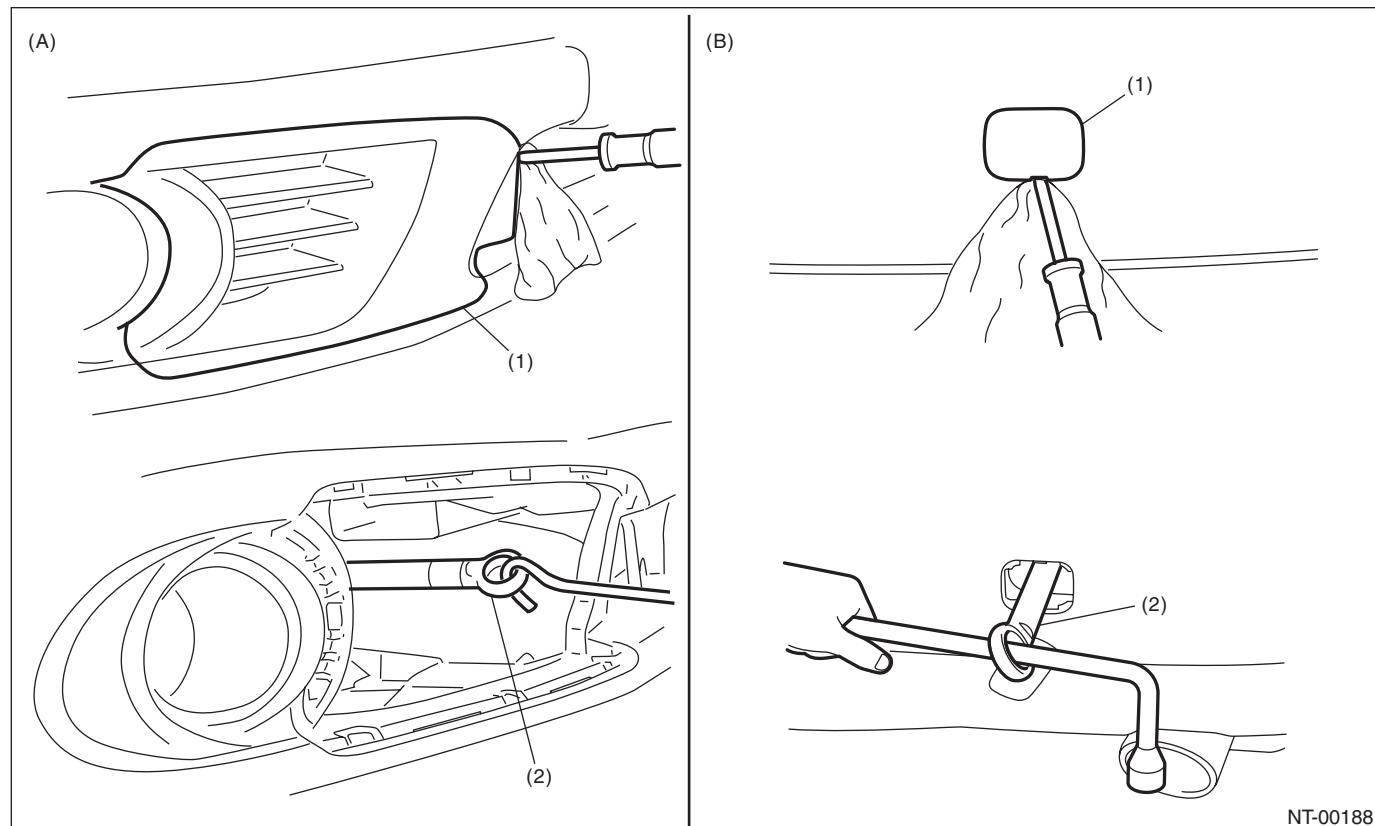
## 9. TOWING

Avoid towing vehicles except when the vehicle cannot be driven. For models with AWD, AT or VTD, use a loader instead of towing. When towing other vehicles, pay attention to the following to prevent hook or vehicle damage resulting from excessive weight.

- Do not tow other vehicles with a front tie-down hook.
- Make sure the vehicle towing is heavier than the vehicle being towed.
- Remove the hook cover, and then install the hook.

**CAUTION:**

- Pull the screwdriver which is inserted into the hook cover.
- Do not remove the hook cover holding the slit of the hook cover.



(A) Front

(B) Rear

(1) Hook cover

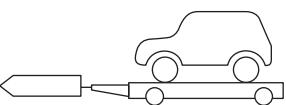
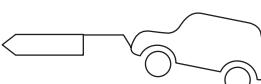
(2) Hook

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## Note

### NOTE

- NOTES

Towing	Precautions	AT
Lifting up four wheels (On a trailer)  	Towing the vehicle after lifting up all four wheels is a basic rule for AWD model.	○
NT-00023		
Rope  	<ul style="list-style-type: none"> <li>Check if both front and rear wheels are rotated normally.</li> <li>Driving speed 30 km/h (19 MPH) or less Allow driving distance 50 km (31 miles) or less</li> </ul>	▲
NT-00024		
Raising the front wheels  	Prohibition	✗
NT-00025		
Lifting up the front wheels  	<ul style="list-style-type: none"> <li>Prohibited, due to damage on bumper, front grille, etc.</li> <li>Do not raise the vehicle with bumper.</li> </ul>	✗
NT-00026		

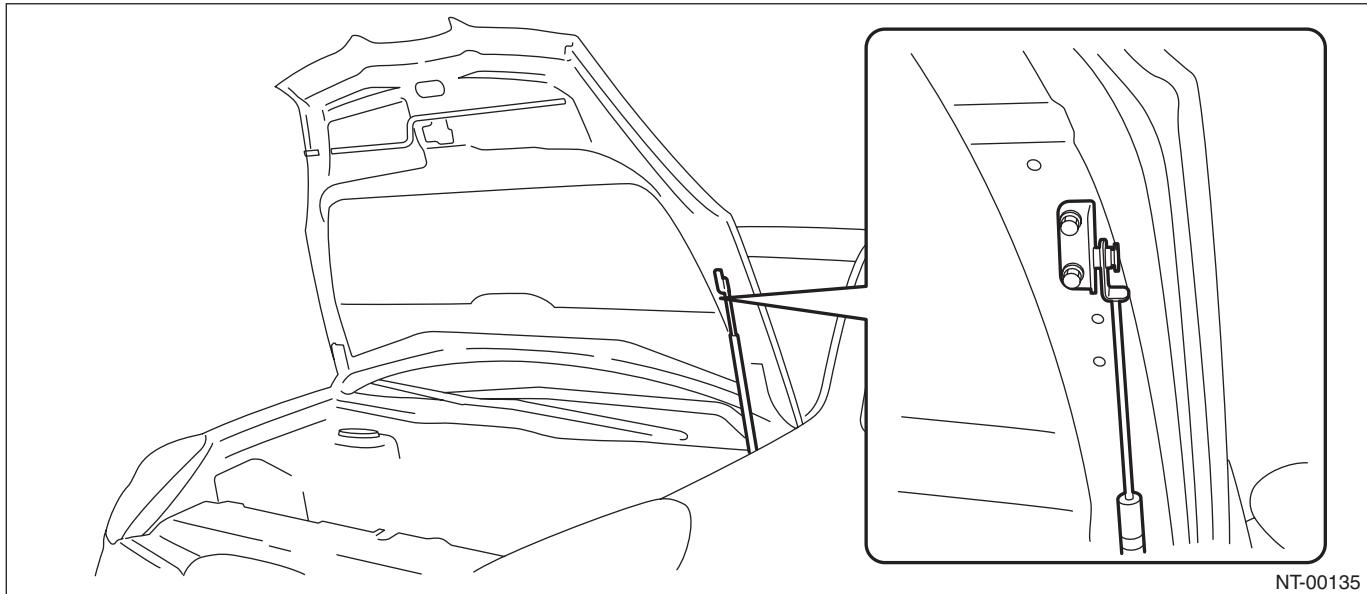
Marked ○: OK, marked ✗: Prohibited, Marked ▲: Conditionally OK.

**CAUTION:**

- Check ATF, gear oil and rear differential oil before driving.
- Place the shift lever in "N" position during towing.
- Do not lift up the rear wheels to avoid unsteady rotation.
- Turn the ignition key to "ACC", then check the steering wheel moves freely.
- Release the parking brake to avoid tire dragging.
- Since the power steering does not work, be careful for the heavy steering effort. (When engine is stopped)
- Since the servo brake does not work, be careful that the brake is not applied effectively. (When engine is stopped)
- In case of the malfunction of internal transmission or drive system, lift up four wheels (on a trailer) for towing.

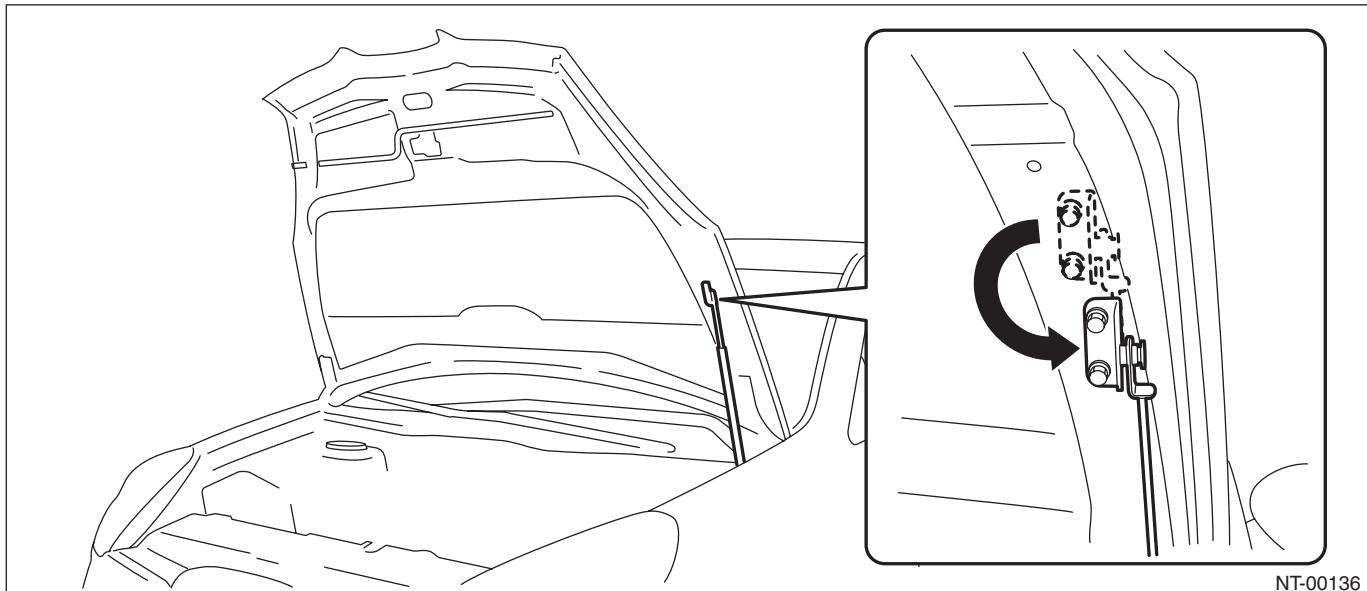
**10.FRONT HOOD DAMPER STAY**

- AT THE CHECK AND GENERAL MAINTENANCE



- WHEN WIDER HOOD OPENING IS NECESSARY

Set the damper stay below as shown in the figure.



## NOTE

### 11.GENERAL SCAN TOOL

Using general scan tools will greatly improve the efficiency of repairing engine electronic controls. Subaru Select Monitor can be used to diagnose the engine, VDC, airbag and other electronically controlled parts.

### 12.AWD CIRCUIT MEASURES

Since VTD type is used in the center differential, cut-off of AWD circuit cannot be carried out.

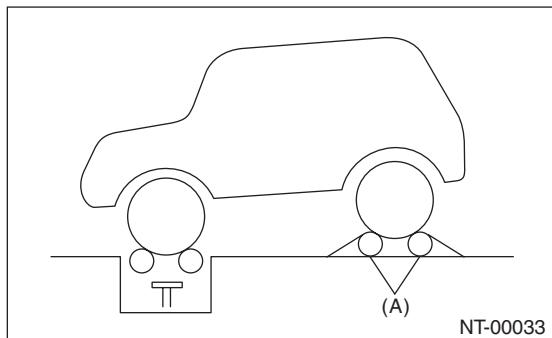
### 13.SPEEDOMETER TEST

#### 1) Rear wheel free roller system

- (1) Set the free roller on the floor of rear wheel side securely according to the wheel base and rear tread of the vehicle.
- (2) Let the vehicle ride on the tester and free roller gently.

#### CAUTION:

**Fix the vehicle using a pulling metal (chain or wire) to the front and rear towing hooks or tie-down hook to prevent the lateral runout of front wheels and springing out of vehicle.**



(A) Free roller

- (3) Set the speedometer tester.
- (4) Conduct the speedometer test work.

#### CAUTION:

**Do not suddenly accelerate or decelerate while working.**

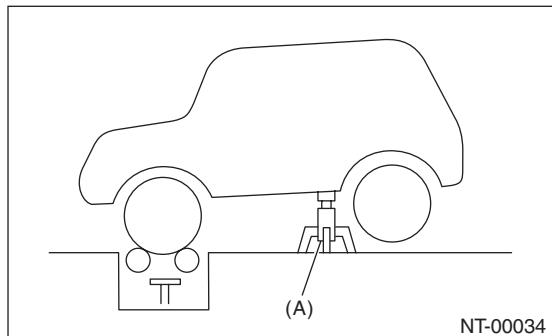
#### 2) Rear wheel jack-up system

- (1) Set the vehicle on speedometer tester.

#### CAUTION:

**Fix the vehicle using a pulling metal (chain or wire) to the front and rear towing hooks or tie-down hook to prevent the lateral runout of front wheels and springing out of vehicle.**

- (2) Jack up the rear wheels and set the rigid racks to the specified locations of side sill.



(A) Rigid rack

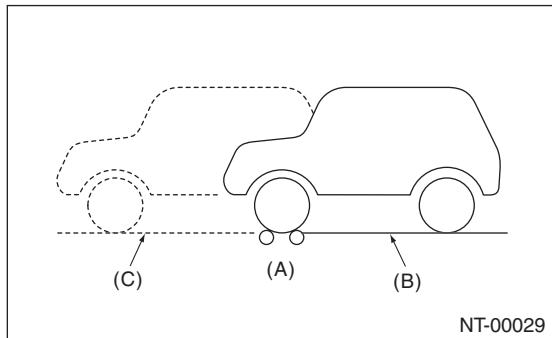
- (3) Conduct the speedometer test work.

#### CAUTION:

**Do not suddenly accelerate or decelerate while working.**

## 14.BRAKE TEST

1) Keep the front or rear wheels on the ground during measurement.



- (A) Brake tester
- (B) Position for measuring front wheel
- (C) Position for measuring rear wheel

2) When the brake dragging force is large, inspect whether there is dragging in the brake or brake shoe.

### Specifications:

	Braking force
Rear wheel total	10% or more of load on front or rear wheels
Difference between right and left wheels	8% or less of load on front or rear wheels
Grand total	50% or more of vehicle weight at the time of test

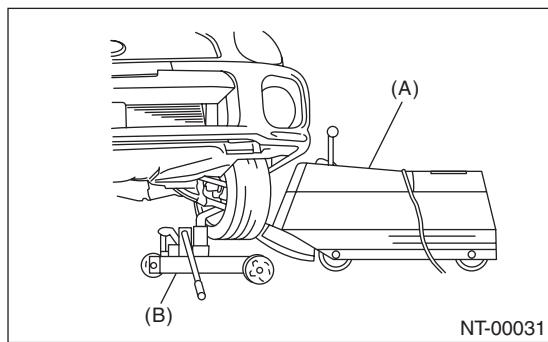
When measurement is difficult to carry out because both of front wheels are locked, check if braking force measurement in this condition conforms to standard grand total.

## 15.ON THE CAR WHEEL BALANCING

### CAUTION:

- Carry out this procedures after measuring the balance of each single tire.
- Set the vehicle so that the front and rear wheels are the same height.
- Release the parking brake during measurement.
- Rotate each wheel by hands, and make sure it rotates without dragging.
- Do not suddenly accelerate or decelerate while working.
- When an error is indicated during engine drive, do not use the motor drive together.

1) Set the rigid rack to the specified locations of side sill, jack up the front or rear two wheels of non-measuring side and set the pickup stands to two wheels of measuring side.



- (A) Balancer body
- (B) Pickup stand

- 2) For drive wheel, drive the tires with engine for measurement.
- 3) For non-drive wheel, drive the tires from the on the car wheel balancer for measurement.

## **Note**

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# IDENTIFICATION

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